UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

In Reply Refer To:
151422SWR01SA5675:MET

MAR 11 2005

Gene K. Fong
Division Administrator
Federal Highway Administration
650 Capitol Mall, Suite 4-100
Sacramento, California 95814

Dear Mr. Fong:

This is in response to your letter of July 8, 2004, requesting an amendment to the biological opinion for the Cypress Avenue Bridge Replacement project issued to you by NOAA's National Marine Fisheries Service (NMFS) on March 23, 2004. The biological opinion addressed the potential impacts to Federally-listed endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley spring-run Chinook salmon (*O. tshawytscha*), threatened Central Valley steelhead (*O. mykiss*), and the designated critical habitat of Sacramento River winter-run Chinook salmon associated with the proposed replacement of the Cypress Avenue Bridge over the Sacramento River in Redding, California.

On May 27, 2004, representatives from the Federal Highway Administration (FHWA), the California Department of Transportation (Caltrans), and the City of Redding met with Michael Tucker of NMFS to discuss potential changes to the project plan and the likely effects of those changes on listed salmonids and their designated critical habitat. The proposed changes to construction plans for the project are as follows:

1. The work window for pile driving and other percussive work will be restricted to the period between October 15 and April 15 (except for the variance described in no. 2, below) through all construction stages in order to avoid the primary spawning periods for winter- and spring-run Chinook salmon. By avoiding percussive impacts during these sensitive spawning periods, the requirement for the placement of anti-spawning mats over suitable spawning habitat within the construction area would be removed. In the March 23, 2004, biological opinion, the proposed work window was April 15 through October 15 and provided that anti-spawning mats were installed by April 15 and removed by October 30.

2. Percussive work may commence as early as October 1, provided that a qualified fisheries biologist confirms through direct surveys that no Chinook salmon redds have been created within 150 yards of the work area in the 30 days prior to the commencement of the work.

3. Clean gravel pads will be constructed to act as work platforms on each side of the river, around the areas where the new Pier 2 and Pier 5 will be constructed and the old bridge piers will be removed. The work pads will be extended out into the active channel from each side of the river approximately 80 to 120 feet, to act as access approaches for the temporary trestles that will be used to access and construct the rest of the bridge. These gravel work pads/approaches will be armored around the edges with larger materials (*i.e.*, large block concrete, K-rails, *etc.*) to insure stability and avoid erosion of the pads. All materials used to construct the pads that are to be placed into the wetted channel will be placed between April 15 and May 1. Provided that the materials are placed in the river during this time period, no anti-spawning mats will be required to be placed under the work pads. Once the approaches have been placed from each bank, construction of the new Pier 2 on the west and Pier 5 on the east would proceed in the dry. In the March 23, 2004, biological opinion, the proposed installation period for the gravel pads was during the April 15 through October 15 work window and provided that anti-spawning mats were installed.

It was also recognized at the May 27, 2004, meeting that the sound levels likely to be produced by the proposed percussive work were underestimated in the March 23, 2004, biological opinion. Maximum sound levels for the proposed activities are expected to be near 180dB instead of 120dB as suggested in the biological opinion, but still will remain below the 204dB sound level found to be lethal to juvenile salmonids.

In general, the above changes to the project description will result in inwater work occurring from October 15 through April 15, with some work allowed as early as October 1 and as late as May 1. Use of this work window is intended to preclude the need for installing anti-spawning mats because it will avoid the peak spawning period for Sacramento River winter-run Chinook salmon in June and July, and for Central Valley spring-run Chinook salmon in September. NMFS believes that the proposed changes are not likely to significantly increase the level of adverse effects to winter- and spring-run Chinook salmon, and may in fact reduce some impacts which were described in the original biological opinion. With regard to steelhead, there is the potential for the proposed change in the timing of inwater work to result in a small increase in the likelihood of take of incubating eggs. However, the level of impact that may occur is not expected to appreciably reduce the likelihood of survival and recovery of the Central Valley steelhead Evolutionarily Significant Unit (ESU).

In the March 23, 2004, biological opinion, NMFS determined that the installation of anti-spawning mats would make approximately 5.7 acres of potential spawning habitat unavailable to Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon for up to 3 years, affecting three different year classes of both ESUs. The effect of this loss on potential spawning success was thought to be small because spawning habitat is widely available on the Sacramento River in the vicinity of the project area; however, not installing spawning mats under the revised project description will eliminate this impact to the above species and to winter-run Chinook salmon critical habitat.

Inwater pile-driving and demolition activities under the revised project description will occur from October 15 through April 15, rather than from April 15 through October 15 as originally

proposed. As stated in the March 23, 2004, biological opinion, NMFS anticipates that these activities will be detectable to juvenile and adult salmonids up to 600m from the source. Adult winter-run Chinook salmon spawning may occur in the action area from May through August, and adult spring-run Chinook salmon spawning may occur from late August through early October; therefore, spawning adults are not likely to be exposed to pile-driving activities under the revised project description. The eggs of late spawning spring-run Chinook salmon and of steelhead (which may spawn from December through April) may be harmed if they are deposited and incubate within 150 yards of the percussive activities during the period when the larger piles are being driven. However, recent spawning surveys (California Department of Fish and Game, unpublished data) indicate that the likelihood that either of these two species will spawn within the construction area during the period that pile-driving will occur is low. Due to the low likelihood of egg exposure to pile-driving activities, NMFS anticipates that the level of take which may result will not reduce the likelihood of survival and recovery of these two ESUs.

NMFS believes that effects to juveniles from inwater pile-driving and demolition activities will be limited to startling responses and behavioral disruptions, and that the level of take will not increase as a result of the new sound level estimate beyond that which was analyzed in the March 23, 2004, biological opinion. As discussed in the biological opinion, the startling of juvenile salmonids is expected to cause injury by temporarily disrupting normal behaviors that are essential to growth and survival such as feeding, sheltering, and migrating. Injury caused when disrupting these behaviors increases the likelihood that individual fish will face increased competition for food and space, and experience reduced growth rates or possibly weight loss. Disruption of these behaviors may also result in the death of some individuals due to increased predation if fish are disoriented or concentrated in areas with high predator densities. Under the revised project description, disruption of these behaviors will occur between October 15 and April 15 of each construction year, during normal working hours and only when the diesel pile driving hammer is being operated (approximately 1.25 hours per day for up to 26 days, as stated in your July 8, 2004, letter). Downstream movement of fry occurs mainly at night, although small numbers of Chinook salmon fry move during daylight hours. Because of this nocturnal migratory behavior, daily migration delays are expected only to impact the portion of each ESU that migrates during daylight hours. Construction lapses, including daily breaks and nighttime non-working periods will allow fish to migrate through the action area and minimize the extent of injury that occurs to populations.

After reviewing the March 23, 2004, Cypress Avenue Bridge Replacement project biological opinion; the results of discussions from the May 27, 2004, meeting of FHWA, Caltrans, City of Redding, and NMFS staff; your July 8, 2004, amendment request; and the best scientific and commercial data available regarding the current status of endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, and threatened Central Valley steelhead, NMFS finds that the proposed changes to the Cypress Avenue Bridge Replacement project do not change the conclusion of the March 23, 2004, biological opinion. The project is not likely to jeopardize the continued existence of the above listed species, and is not likely to destroy or adversely modify the designated critical habitat of Sacramento River winter-run Chinook salmon.

Enclosed is an updated Incidental Take Statement that amends the Cypress Avenue Bridge Replacement project biological opinion by reflecting the changes in the in-channel construction work window and removal of the need for installing anti-spawning mats. This Incidental Take Statement supercedes the previously issued Incidental Take Statements for the Cypress Avenue Bridge Replacement project.

This concludes consultation on FHWA's request to amend the Cypress Avenue Bridge Replacement project biological opinion. Reinitiation of formal consultation is required if (1) the amount or extent of taking specified in the Incidental Take Statement is exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (3) the action is subsequently modified in a manner that causes an effect to the listed species that was not considered in the biological opinion or amendments, including this letter, or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, formal consultation shall be reinitiated immediately.

If you have any questions regarding this correspondence or if NMFS can provide further assistance on this project, please contact Mr. Michael Tucker in our Sacramento Area Office, 650 Capitol Mall, Suite 8-300, Sacramento, CA 95814. Mr. Tucker may be reached by telephone at (916) 930-3604 or by fax at (916) 930-3629.

Sincerely,

for Rodney R. McInnis
Regional Administrator

Enclosure
cc: NMFS-PRD, Long Beach, CA

IX. INCIDENTAL TAKE STATEMENT

Section 9 of the Endangered Species Act (ESA) and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NOAA's National Marine Fisheries Service (NMFS) as an act which kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans) so that they become binding conditions of any grant or permit, as appropriate, for the exemption in section 7(o)(2) to apply. FHWA has a continuing duty to regulate the activity covered by this Incidental Take Statement. If FHWA (1) fails to assume and implement the terms and conditions of the Incidental Take Statement, or (2) fails to require Caltrans to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to NMFS as specified in the Incidental Take Statement (50 CFR §402.14[i][3]).

A. Amount or Extent of Take

NMFS anticipates that the proposed action will result in incidental take of Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead. Incidental take associated with this action is expected to be in the form of harm or harassment of winter- and spring-run Chinook salmon and steelhead adults resulting from pile driving, and of winter- and spring-run Chinook salmon and steelhead juveniles resulting from pile driving, cofferdam installation, placement of gravel approach pads, fish salvage, and temporary and permanent loss of shaded riverine aquatic habitat. Some mortality (<10 percent of all fish collected) is anticipated from conducting fish salvage within cofferdams. Mortality of all eggs and larvae present in redds constructed within 150 yards of diesel hammer pile-driving activities also is expected.

NMFS cannot, using the best available information, quantify the anticipated incidental take of individual winter- and spring-run Chinook salmon and steelhead because of the variability and

uncertainty associated with the population size of each species, annual variations in the timing of migration, and uncertainties regarding individual habitat use of the project area. However, it is possible to describe the conditions that will lead to the take. Specifically, take during the four-year project is not expected to exceed that associated with the construction, between October 15 and April 15, of up to six cofferdams and 26 trestle piers per year; pile-driving at or below 180dB that will startle adults and juveniles in a 600m radius from the pile-driving source, and kill eggs and larvae in redds within 150 yards of the diesel hammer pile-driving source; up to six cofferdam fish salvage activities per year that will kill up to ten percent of all juvenile fish captured and; increased sediment and turbidity from the installation and removal of steel piles and cofferdams at three in-water bridge columns. Loss of riparian vegetation is not expected to exceed 0.66 acres for 20 years.

Anticipated incidental take may be exceeded if project activities exceed the criteria described above, if the project is not implemented as described in the biological assessment for the Cypress Avenue Bridge Replacement project and subsequent project description updates, or if the proposed conservation measures listed in the *Description of the Proposed Action* section of the biological assessment are not implemented.

NMFS has determined that this level of anticipated take is not likely to result in jeopardy to the species considered in this opinion, or destruction or adverse modification of critical habitat.

B. Reasonable and Prudent Measures

NMFS has determined that the following reasonable and prudent measures are necessary and appropriate to minimize the incidental take of listed anadromous salmonids.

1. Measures shall be taken to minimize the amount and duration of pile driving and its potential impacts on listed salmonids.

2. Gravel approach pads shall be constructed and managed so as to minimize potential adverse impacts, and to maximize potential benefits, to listed salmonids from these structures.

3. FHWA/Caltrans shall provide a yearly report summarizing construction activities, species status within 200 yards upstream and downstream of the bridge site, avoidance and/or minimization measures taken, and any observed take incidents.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline prescribed reporting/monitoring requirements. These terms and conditions are non-discretionary:

1. Measures shall be taken to minimize the amount and duration of pile driving and its potential impacts on listed salmonids.

a. All trestle, falsework, and cofferdam piles shall be located and constructed so that, wherever feasible, piles shall be left in place and reused in subsequent stages of the construction process.

b. Pile driving and other percussive work beginning during the period from October 1 through October 15 shall require written consent from NMFS (see contact information below), and will be contingent upon a report by a qualified fisheries biologist confirming through direct surveys that no Chinook salmon redds have been created within 150 yards of the work area within the 30 days prior to commencement of the work. Otherwise, percussive work will be confined to the period from October 15 through April 15 through all construction stages.

c. Noise from pile-driving activities is not expected to exceed 180dB. However, FHWA/Caltrans shall conduct acoustic monitoring within the water column and the substrate of the Sacramento River to determine the range and magnitude of compression shock waves generated by pile-driving operations at the Cypress Avenue Bridge Replacement project. Acoustic monitoring must be designed to verify that pile-driving activities do not exceed 180dB, and if they do, at what range they generate noise levels found to be lethal to juvenile salmonids (204dB). Exceedances of 180dB shall be reported to the Sacramento Area Office of NMFS within 48 hours (see contact information below).

2. Gravel approach pads shall be constructed and managed so as to minimize potential adverse impacts, and to maximize potential benefits, to listed salmonids from these structures.

a. Gravel size will be between 1 and 4 inches in diameter, and will be uncrushed, rounded natural river rock with no sharp edges.

b. In order to supply clean gravel to downstream spawning habitat, the gravel approach pads shall not be fully removed following their use. Instead, only non-gravel surfacing materials and any other materials which are required to be removed by the California Reclamation Board to avoid flood risk shall be removed. The remaining spawning gravel shall be left in the river channel and allowed to wash downstream and be distributed naturally by high stream flows.

3. FHWA/Caltrans shall provide a yearly report summarizing construction activities, species status within 200 yards upstream and downstream of the bridge site, avoidance and/or minimization measures taken, and any observed take incidents.

a. FHWA/Caltrans shall provide a summary report by December 31 of each construction year detailing in-water construction activities and the results

of acoustic monitoring. Reports will also identify the number of winter- and spring-run Chinook salmon and steelhead redds within 200 yards upstream and downstream of the bridge site on maps, and describe any redds that were damaged as a result of in-water construction activities.

b. If a listed species is observed injured or killed by project activities, FHWA/Caltrans shall contact the Sacramento Area Office of NMFS within 48 hours (see contact information below). Notification shall include species identification, the number of fish, and a description of the action that resulted in take. If possible, dead individuals shall be collected, placed in an airtight bag, and refrigerated with the aforementioned information until directed to do otherwise by NMFS.

Updates and reports required by these terms and conditions shall be submitted to:

Supervisor
Sacramento Area Office
National Marine Fisheries Service
650 Capitol Mall, Suite 8-300
Sacramento, CA 95814

FAX: (916) 930-3629
Phone: (916) 930-3600